ALBERTA ENVIRONMENT

OIL AND GAS REMEDIATION AND RECLAMATION ADVISORY COMMITTEE

Recommendations to Minister

Report prepared on behalf of
Oil and Gas Remediation and Reclamation Advisory Committee

November 2004

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I. Introduction

The Oil and Gas Remediation and Reclamation Advisory Committee (OGRRAC) was formed in June 2003 to review and provide recommendations to the Minister of Environment on implementation of the revised program for certification of remediated and reclaimed upstream oil and gas sites. The terms of reference established for the Committee are attached as Appendix 1.

Alberta's Environmental Protection and Enhancement Act (EPEA) requires that oil and gas operators conserve and reclaim lands disturbed by their activities. EPEA's Conservation and Reclamation Regulation specifies the conditions and procedures for issuance of a Reclamation Certificate (RC), which is designed to signal the completion of the required environmental work.

The Alberta government has developed a new reclamation program that is designed to strengthen the approach to contaminant management and enhances capacity needed to deal with an increasing workload in conventional oil and gas decommissioning. The old wellsite inquiry process has been replaced by a combination of technical review of applications and post-certification field audits. Use of specialists is encouraged for the first two years of the new program and, thereafter will be required. Requirements for contamination management are explicit under the new program and both technical review and audit procedures will assess contamination. The Alberta government has extended the timeline for operator reclamation liability to 25 years.

With the above changes, most of the important decisions for the new program are in place. However, additional input and analysis was requested from OGRRAC to allow refinements to the program in nine areas.

The OGRRAC was co-chaired by Ted Nason and David Lloyd of Alberta Environment's Environmental Assurance Division and Strategic Directions Division, respectively. Additional AENV personnel who served on the Committee are Walter Ceroici and Darlene Howat. Ms. Howat also carried out the critical secretariat functions for the Committee. The OGRRAC also included the following representatives:

Sylvia Ainslie, Farmer's Advocate
Neil Drummond, Imperial Oil Resources (CAPP representative)
Peter Eggers, Alberta Conservation Tillage Society
Kris Geekie, Alberta Energy and Utilities Board
Bart Guyon, Alberta Association of Municipal Districts and Counties
Tom Nihirniak, Surface Rights Federation
Peter Poohkay, ATCO Pipelines/Karen Etherington, TransCanada Pipelines (CEPA representatives)
Glenn Selland/Dave Bartesko, Alberta Sustainable Resource Development
Jody Spady, Husky Inc., (CAPP representative)
Dalton Trenholm, Surface Rights Federation

II. Goals

The OGRRAC focussed its efforts on developing recommendations that would allow Alberta's upstream oil and gas remediation and reclamation program to achieve the following goals:

- Avoid impairment of, or damage to, the environment, human health or safety, or property[1].
- Provide equivalent land capability[2] through appropriate reclamation practices.
- Encourage oil and gas operators to attain these goals in a timely way.
- Create clear regulatory requirements, processes and communications that assure Albertans that lands disturbed or contaminated by oil and gas activity are being effectively reclaimed and remediated.

Initially, OGRRAC was tasked with providing recommendations in four areas as outlined in the original Terms of Reference (Appendix 1). During early discussions, the OGRRAC identified a number of other areas where recommendations were needed:

1. Access following certificate cancellation[3]
2. Guidance on certificate cancellation several years after issuance
3. Application fee structure
4. Landowner notification and information disclosure
5. Indirect effects (of oil and gas activity on landowners)
6. Pre-construction communications and proactive problem avoidance
7. Application of the new program to pipelines

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1 Taken from the definition of " adverse effect" under EPEA, Definitions, s.1(b).

2 Defined in the Conservation and Reclamation Regulation, s.1(e).

3 As governed by the Surface Rights Act.

III. Principles

Within the goals noted in Section 2, the OGRRAC confirmed that the following principles should apply:

1. Effective and sound environmental stewardship is paramount
2. Government will have oversight and will be accountable for the program
3. Government will set remediation and reclamation criteria
4. Government staff won't necessarily deliver all parts of the program
5. Program will be clear, effective, and simple
6. Roles for all parties will be clearly defined
7. There will be equitable stakeholder participation in program changes or reviews
8. Accountability and liability and – including exemptions -- will be clearly defined for all parties
9. Enforcement will be fair, effective and timely
10. Annual program reviews will be held with stakeholders

IV. Recommendations

A. Recommended changes to the Liability Period for Surface Reclamation

Issue:

The Conservation and Reclamation Regulation was amended on October 1, 2003 to provide for a 25-year liability period, however, this period is administratively, not scientifically determined.

Context:

Prior to October 1, 2003 liability for reclamation problems following issuance of a Reclamation Certificate remained with the oil and gas operator for 5 years and then passed to the Alberta government. Alberta Environment used the provisions set out in s.142 of EPEA to trigger its responsibility for reclamation after this 5-year waiting period.

Because annual activities and costs under s.142 are not insignificant, Government has extended the operator liability period to 25 years under the new program. This liability period is administratively based. During consultation on program change, Alberta Environment committed to review and adjust this period as appropriate based on an analysis of historical data.

The primary source of historical data available is records of s. 142 activity (work conducted at a reclaimed site after the liability period has lapsed) undertaken by government. A review of s.142 activity is needed to determine what length of time is required for post-certification reclamation issues to be revealed. This and other information was used to assess what a technically defensible operator liability period could be.

Recommendations:

- The *Conservation and Reclamation Regulation* should be amended to provide for a 10-year liability period based on latency of reclamation issues not apparent at the time of certification. *(NB. Recommendation based on analysis of samples drawn from the historical population of certified sites and in consideration of uncertainties around the performance of the new program)*
    - Government should conduct a review of the liability period in consultation with stakeholders every five years.

B. Recommendations on ensuring operator access to land pursuant to issuance of a reclamation certificate

Issue:

Oil and gas operators do not have assured access to land after a reclamation certificate has been issued and the surface lease surrendered.

Context:

Under the revised program for upstream oil and gas sites, Alberta Environment issues reclamation certificates on the basis of a desktop review of application materials and may audit sites to ensure that such certificates have been issued on a justified basis. Should an audit or complaint response show that a site does not meet Alberta Environment's standards the certificate may be cancelled. The oil and gas operator is obliged to complete remediation and/or reclamation work, however, site access is not assured because the surface lease will likely have been surrendered pursuant to the issuance of a reclamation certificate.

The Surface Rights Act has provisions to ensure Right of Entry on land for the purposes of proving or mining a mineral when a voluntary lease agreement cannot be reached between operator and the landowner/occupant. This legislation does not currently address activities related to reclamation or remediation after cancellation of a lease.

Note this issue only applies to freehold lands and is not an issue for public lands. Sustainable Resource Development has the ability to grant temporary access agreements for such purposes to complete reclamation or remedial work.

Recommendations:

- For freehold lands, the Surface Rights Act should be amended to include an ability for Right of Entry for remediation and reclamation activities
- Compensation parameters, for re-entry after a reclamation certificate has been cancelled and dealing with reclamation and remediation issues, should focus on, but not necessarily be limited to:
    - Adverse effect AND
    - Loss of use
- Ensure that the existing 5 year rental review period applies for reclamation/remediation activities
- A limitation provision should apply to remediation and reclamation issues (i.e. a statute of limitations approach) to encourage landowners/occupants to report remediation and reclamation issues promptly and provide certainty on compensation amounts.

C. Recommendations on cancellation of a reclamation certificate

Issue:

AENV's new certification program provides for cancellation of a reclamation certificate where reclamation work is found to be deficient through audit or validated complaint response. Work is required to identify the necessary information to support such a decision.

Context:

The Oil and Gas Reclamation and Remediation Advisory Committee discussed the importance of being able to link problems at a site back to oil and gas activity. For contamination issues, the link is generally clear, however for reclamation issues the connection becomes less certain as time passes.

The committee discussed the possibility that the severity of a problem would increase the likelihood of cancellation. A certificate could be cancelled right away if there is a severe problem, but for other problems the operator may be given up to one year to resolve the problem. If the problem hasn't been fixed after the set time, the certificate would be cancelled. In addition, the committee discussed whether specific problems could have varying timeframes leading to cancellation of a certificate.

Recommendations:

The following conditions specify when a reclamation certificate can be cancelled if a problem, that is confirmed to be linked to oil and gas activity, occurs:

- The operator fails to respond in writing to AENV within 30 days following written notification of a failed audit or substantiated complaint,
- The operator fails to complete the work within the specified time frame (usually within one year) or fails to provide justification for a an extension,
- The problem is *expected* to take several years to remedy, or
- Information provided by the operator to support that a site meets reclamation and remediation requirements grossly misrepresents actual site conditions.

AENV's Third Party Information Letter should be updated to reflect the recommendations and changes to the new program.

D. Recommendations regarding the competencies of individuals in the remediation and reclamation of oil and gas sites

Issue:

There are no competency requirements for individuals assessing and conducting reclamation and remediation work in Alberta.

Context:

Some reclamation and remediation work is not being done properly and this negatively affects public opinion of industry and government. While there are likely several factors contributing to poor performance in these cases, lack of qualifications and/or experience is one factor that can be addressed through some form of competency assurance measure.

The OGRRAC considered that many individuals might influence reclamation and remediation outcomes at a particular site – including construction personnel employed at the initial construction of a facility. It was agreed that a number of actions are required in the long term to improve performance, however, in the short term, attention should focus on the *assessment process* that precedes submission of an application for a reclamation certificate. It is this assessor who is judging reclamation and/or remediation to be complete and successful.

Forty years of experience in the reclamation certification program shows that significant knowledge and skill is needed to execute and assess reclamation and remediation. However, there are no competency requirements that confirm this for remediation and reclamation assessors in Alberta. It is time that Albertans were assured that the persons assessing environmental conditions prior to certification are competent and capable.

Recommendations:

- The Alberta Government should lead development of a program to ensure that remediation and reclamation work at upstream oil and gas sites is *assessed*[4] by competent (specialist) individuals.

  Such an individual must:
  - Have the competencies to conduct work;
  - Not practice outside of his/her area(s) of competency; and,
  - Be accountable

  A level of consistency must be established.

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[4] This recommendation concerns the competencies of those individuals signing off on the reclamation certificate application

- The oil and gas industry, building on existing work, should lead development of a program in cooperation with other stakeholders, to ensure that remediation and reclamation work at upstream oil and gas sites is *conducted*[5] by competent individuals.

    - Opportunities to evaluate the work of the Petroleum Services Association of Canada to assess and measure competency should be pursued to determine if this is a good model.

    - The focus should be on ensuring that construction and reclamation/remediation personnel are knowledgeable in environmental features and objectives and understand how their diligence will affect the ultimate environmental outcomes obtained.

E. Pre-Construction Communications and Pro-Active Reclamation Problem Avoidance

Issue:

Where significant reclamation problems have arisen, inadequate planning and care in the construction phases has often contributed to the cause.

Context:

Reclamation challenges faced by oil and gas operators are strongly influenced by the care taken in planning and executing the construction phases of a facility. Industry and government awareness of the benefits of careful planning and adoption of site construction techniques that minimize and mitigate disturbance has increased significantly in recent years. This awareness has led to the development of a number of guidelines, requirements, and best practices to enhance positive environmental results. While industry is generally familiar with and adheres to the guidelines and requirements, some challenges remain:

- Some operators lag behind the majority who have adopted improved practices,
- Information on requirements and recommended practices has emphasized industry needs however landowner awareness of existing regulatory requirements is low.
- More information tailored to landowners needs is required,
- Opportunities for valuable input from landowners on planning and construction are not being fully realized.

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[5] This recommendation concerns the individuals carrying out the work on the site.

In discussing this issue, the OGRRAC recognized that the Energy and Utilities Board and Alberta Departments of Environment and Sustainable Resource Development provide information to Albertans on the environmental aspects of oil and gas development and are in the best position to lead improvement in these areas. However, existing information is fragmented and may, in some cases be inconsistent.

The OGRRAC discussed the pre-construction site assessment (PCSA) as an effective tool to improving construction practices. Incentives for and obstacles to the delivery and application of PCSAs were discussed.

Recommendations:

- Alberta Environment, Sustainable Resource Development and Energy and Utilities Board review existing guidance in this area, prepare a summary of available information and identify information needs, particularly for landowners, not addressed by existing materials.

- Government should lead the development and implementation of a plan that consolidates and harmonizes all information available from the three agencies.

- Government should lead the development and implementation of a communication plan to make this information available to landowners. The plan should take advantage of the media and forums favoured by landowners – e.g., producer newspapers and letters, producers' conferences and annual meetings.

- Multi-stakeholder development of a competency-based education module and potentially, a certification process for construction personnel and supervisors delivering services to the oil and gas industry.

- Multi-stakeholder development of checklists and questionnaires for pre-construction and construction operations to ensure that the essential information is gathered and applied.

- Consider making the PCSA a mandatory element in developing an oil and gas facility. The PCSA information would be subject to audit and companies may be found in non-compliance if unable to produce the PCSA. Government is accountable for determining which agency is best positioned to deliver this regulatory function. The PCSA's could be included in the well license application in the landowner package. The Environmental Field Reports used by SRD for public land should be used as a template.

- The PCSA should be used to guide the selection of the site, minimize site disturbance, maximize salvage of topsoil and minimize admixing.

F. Indirect Effects of Oil and Gas Development on Landowners

Issue:

Financial institutions and land appraisers normally factor oil and gas activity into their assessments. This can lead to, and in some cases has led to, increased costs for landowners.

Context:

Landowners are financially compensated during the exploration and production phases of oil and gas development. Once a reclamation certificate is issued the surface lease can be surrendered and lease payments terminated. Indirect effects on a landowner's financial position may also occur. For example:

- Environmental site assessments (ESAs) regarding oil and gas facilities may be required to secure development loans;
- ESAs indicating presence of contamination may affect the viability of a landowner's development loan application; and
- Land parcels including areas reclaimed after oil and gas activity may be valued differently in real estate markets.

The OGRRAC identified indirect effects as an area of concern and recognized that financial institutions are the key to progress on this issue. The OGRRAC also concluded that the perceptions of the financial institutions are affected by the information available to them.

The OGRRAC invited lending institutions into their deliberations on several occasions and benefited from face-to-face meetings and an exchange of correspondence.

Recommendations:

- Alberta Environment should establish and maintain an open dialog with rural lending institutions regarding environmental management of oil and gas facilities.

- Such dialog be focused on ensuring that lenders understand Alberta's environmental regulatory system, including applicable standards and legal basis for assignment of liability. Landowners are NOT liable for environmental issues associated with oil and gas operations.

- Efforts to reach rural lending institutions should be undertaken on a local level, as is being done with rural residents. Rural lenders should be encouraged to attend public meetings where information on oil and gas development and reclamation and remediation is being made available. Alberta Environment should also seek opportunities to reach rural loans officers and managers directly.

- Alberta Environment review its contaminated sites legislation and policy to ensure and further clarify that landowners are not responsible for environmental impacts on their lands caused by oil and gas operations.

- Alberta Environment revises Information Letter 01-8 (Liability for Contamination on Upstream Oil and Gas Sites) once the review of contaminated sites legislation is completed. The revised IL should be broadly distributed to rural lending institutions.

- Regulators enhance existing information systems to ensure easy access to remediation and reclamation information important to development, redevelopment and transfer of properties formerly supporting oil and gas activities.

- Table this issue with the Industry-Landowner Relations Committee chaired by the Energy and Utilities Board.

G. Recommendations on the measurement of performance in the remediation and reclamation program

Issue:

Program assurance will be enhanced through regular reporting of outcomes.

Context:

The new program should be adaptive to and reflective of both industry and government performance, and hence needs to be monitored for effectiveness. Four performance measures have been developed to measure program outcomes. These performance measures are:

- *Ratio of certified upstream oil and gas wellsites and production sites to abandoned upstream oil and gas sites.* This measure compares the number of upstream oil and gas sites that have been abandoned in the Alberta Energy and Utilities Board database to the number of reclamation certificates that have been issued by Alberta Environment and Alberta Sustainable Resource Development. Note that accounting for sites with more than one well bore is necessary.

- *Percentage of applications receiving a reclamation certificate.* This measure indicates the percentage of reclamation certificate applications that undergo a successful desktop review and receive a reclamation certificate.

- *Percentage of randomly selected certified sites that pass the audit.* This measure indicates the percentage of randomly selected certified sites audited by Alberta Environment that have met Alberta Environment's reclamation and remediation requirements. Approximately 15 percent of upstream oil and gas sites that receive a reclamation certificate under the new reclamation program will be audited – a proportion of these sites will be randomly audited.

- *Percentage of applications accompanied by Acknowledgement of Information Disclosure form.* This measure indicates whether consultation with landowners prior to application for a reclamation certificate is effective. Applicants for a Reclamation Certificate must provide evidence that efforts have been made to consult landowners and that they have been provided all information in the application package. Operators can demonstrate this communication by submission of an Acknowledgement of Information Disclosure form signed by the landowner or, failing this, through submission of a Statutory Declaration that information has been provided but the landowner was unable or unwilling to sign the *Acknowledgement of Information Disclosure* form. On the *Acknowledgement of Information Disclosure* form the landowner can also indicate whether he/she had opportunity to discuss with the operator the planning and outcomes of remediation and reclamation work on his/her land.

The OGRRAC has reviewed the proposed performance measures and provided feedback on each. The performance measure "Percentage of Applications Accompanied by Acknowledgement of Information Disclosure Form" was initially discussed by the committee, with concerns that landowners may have a general unwillingness to sign the Acknowledgment of Information Disclosure form, which would negatively distort landowner and industry relationships. After the program commenced, approximately 55% of applications received by Alberta Environment included the Acknowledgment of Information Disclosure form, which led to the endorsement of this performance measure by committee members.

As with any program that includes right of appeal, the percentage of appeals should be tracked as a general measure of efficiency and /or satisfaction.

Recommendations:

- The target for the performance measure Ratio of Certified Upstream Oil and Gas Wellsites and Production Sites to Abandoned Upstream Oil and Gas Sites is that all abandoned upstream oil and gas sites will be certified according to Alberta Environment's requirements. As the backlog of abandoned but uncertified sites is reduced, the measure will approach one. These results will be reported annually.

- There are two performance targets for the Percentage of Applications Receiving a Reclamation Certificate: one for Alberta Environment and the other for industry. Alberta Environment's target is to provide a decision on an application within a specified period of time after receipt at the Regulatory Approval Centre. This period will be determined in consultation with AENV Regional Services. The target for industry is to ensure all reclamation certificate applications are accepted. The number of acceptable applications is expected to increase as experience is gained with the requirements of the new program. Reporting on reasons for application refusal, for example incomplete, "fails to meet criteria", are beneficial to improving program performance. These results will be reported on a quarterly basis.

- There are two performance targets for the Percentage of Sites that Pass the Audit. Alberta Environment's target is to ensure that fifteen percent of all sites that are certified under the new program be audited over a three-year period. To the extent possible, every company will be audited at least once over a three-year period. Industry's target is to ensure that all audited sites meet Alberta Environment's requirements. Reporting on the reasons for audit failure is beneficial to improving program performance. These results will be reported on an annual basis.

- There are two performance targets for the Percentage of Applications Accompanied by Acknowledgement of Information Disclosure form. The results will be determined by the number of acceptable applications accompanied by the Acknowledgement of Information Disclosure form calculated as a percentage of the total acceptable applications. In addition, the following will be calculated as a percentage of the total acceptable applications:

    - The number of acceptable applications with the "planning question" answered by "yes";
    - The number of acceptable applications with the "results question" answered by "yes"; and
    - The number of acceptable applications with both questions answered by "yes".

  This provides a total of four measures that can be used to assess progress in improving operator/landowner relations. These results will be reported on an annual basis and via Alberta Environment's website.

- Government should also report on the percentage of appeals to the Environmental Appeal Board and the percentage initiated by the landowners/occupants versus those initiated by industry.

H. Recommendations on the implementation of the revised certification program for upstream oil and gas facilities to pipelines

Issue:

Assessment and certification of reclamation on pipelines has not been explicitly addressed by program changes to this point. Work is needed to clarify the application of the new program to pipelines.

Context:

Re-design of the reclamation and remediation program for upstream oil and gas facilities has focused on wellsites and batteries. Whereas the specifics of land tenure, disturbance patterns, and anticipated service cycle are different between wellsites and pipelines, the environmental outcomes are the same.

The OGRRAC had sufficient discussion to determine that pipelines have some unique aspects with respect to reclamation and remediation differentiating them from wellsites and associated facilities. The OGRRAC recognized that much of this work has been initiated by the long-standing Alberta Pipelines Environmental Steering Committee (APESC).

Recommendations:

- Issues associated with the implementation of the new reclamation certification program to pipelines and their appropriate resolution should properly be addressed by APESC.

- APESC membership should be reviewed to ensure continuity with the OGRRAC processes and recommendations.

- The Alberta Departments of Environment, Sustainable Resource Development, Agriculture Food and Rural Development and Energy (EUB) should empower APESC to provide specific recommendations regarding pipeline assessment and certification to government on a defined timeline.

I. Recommendations on fee structure for the new program

Issue:

The fee schedule under the new remediation/reclamation program needs to be reviewed.

Context:

A fee of $300 accompanied an application for certification under the old reclamation program. This fee was instituted on April 15, 1996 and was intended to assist government in dealing with resourcing issues associated with the evaluation of complex application packages. At present, application fees go to general revenue and do not represent a dedicated resource to support the program.

The new program is more comprehensive, including contamination management information and both reclamation and remediation audits for contamination at depth. Remediation audits will incur costs external to the Department such as consultant's fees for conducting the audit, rental costs for soil sampling equipment and laboratory analytical expenses. Each remediation audit may cost between $5,000 to $10, 000 and an average cost will be determined as audits are conducted.

As well, the new program is to be more efficient with a more effective complaint process to effectively free up resources to focus on issues. The complaint response will play a larger role in ensuring that environmental management goals have been met. The department has determined these expanded assurance roles for government will require additional resources. Government and industry agree that the costs of delivering the new program are shared.

The committee focused its discussions around costs of delivering the remediation audit because this represents the principal costs external to government. A revised fee structure will need to address these costs.

In discussions regarding the fee structure for applications, the OGRRAC compared the management of these fees to that of the Orphan Well Levy. This model ensures that the budget amount is consistent with the actual costs incurred to complete the audit component of the program and is adjusted accordingly.

The committee discussed the manner in which an application fee could be directly computed from the audit rate (initially 15%), estimated number of applications, and the external average cost per audit to estimate the total amount of funding required. The total amount divided by the number of applications provides the fee per application. External costs associated with substantiated contamination complaints that result in a remediation audit were discussed as also being addressed by the application fee. Handled this way, revenues required to carry out the audit would be available regardless of the application certification rate.

The OGRRAC discussed the role of the audit in ensuring strong program performance. The committee agreed that the audit rate, set initially at 15 percent, should be subject to change based on environmental outcomes under the audit. Should results indicate that a change in the audit rate is needed, a corresponding change in application fees would be necessary. Fees would also be sensitive to actual costs of delivering the audit. Factors such as economy of scale, changes in technology, and inflation will influence the audit costs.

The committee felt that a periodic review of the economics of the audit would be needed to ensure that factors affecting audit costs are identified, considered and acted upon.

Industry's Perspective

Industry will experience additional costs with the new program through conducting and providing more detailed ESA's (i.e. Phase I and Phase 2) and increased landowner communication. Industry's perspective is that it is unfair and unreasonable for industry to pay for these assurances twice or, in other words, pay for the Department's field investigation component of the audit.

Alberta Environment's Perspective

AENV's perspective is that audits are a required assurance element and should be conducted on a cost recovery basis. Revised fees should cover external costs associated with the audit process.

Recommendations:

- The application fee should be revised to reflect the external costs associated with completing the audit component of the new program.
- Fees collected should be directed to a dedicated fund for the reclamation and remediation program for upstream oil and gas facilities only.
- Fees should be reviewed periodically to reflect reclamation/remediation performance under this program.

J. Stratified Remediation

Issue:

Application of the stratified remediation provisions of the *Canada-Wide Standards on Petroleum Hydrocarbons in Soil* under the new reclamation and remediation program for upstream oil and gas sites.

Context:

Stratified remediation for petroleum hydrocarbons involves using surface soil criteria from the soil surface down through the soil profile to a specified depth at which subsoil criteria can be used. Stratified remediation can currently be utilized by applying subsoil criteria (a) below the 1.5 m depth within a 15 m radius of wellcentre; and (b) below the 3 m depth anywhere on a lease. Research conducted to date indicates that surface soil and subsoil criteria are protective of human health and the environment.

Stakeholders agree with the objective that human health and the environment should be protected from risks associated with upstream oil and gas wastes, while encouraging development of innovative technologies to more efficiently remediate sites.

A number of issues and perspectives have arisen in discussion of the appropriate application of this remediation option.

Landowner Perspectives

- The Surface Rights Federation is not in favour of stratified remediation
- Specific concern about the indirect effects of using the 1.5 m stratified remediation option for the entire lease (e.g., landowner could have difficulty obtaining a loan if the lender feels the 1.5 m stratified option has an impact on land value)
- Concerned about the long-term impacts of the 1.5 m stratified option on crop quality and health
- Land use options are reduced.
- Need to clarify that landowners are not liable for any environmental issues relating to stratified remediation.
- Incentives are required to ensure that stratified remediation options are not required in future developments.

Industry Perspectives

- Without the 1.5 m stratified option for the entire lease, more contaminated soil will need to be disposed of at landfills instead of being managed/remediated on site. This could lead to proliferation of landfills and simply moves contaminated soil from one site to another.
- Industry is concerned that the inability to apply stratified remediation throughout sites, i.e., battery sites, limits remedial options without a net environmental benefit.

Alberta Environment's Perspective

- Use of the 1.5 m stratified remediation option is appropriate under certain conditions that need to be clearly defined.

Recommendations:

The present application of stratified remediation at a 1.5 m depth within a 15 m radius of a wellhead and at a 3.0 m depth anywhere on the site should continue to apply. The following recommendation applies to the use of stratified remediation at 1.5 m depth in areas other than around a former wellhead.

Recommendation Regarding General Application of Stratified Remediation at 1.5 m Depth

Provided that the first four sub-recommendations below are fulfilled, the OGRRAC will reconvene to discuss and recommend upon the appropriate application of stratified remediation within the upstream oil and gas reclamation program. It is recommended that these four sub-recommendations be completed within a three-year period, by November 2007.

- (1) Develop an administrative process for tracking sites that will:
    - Identify if the 1.5 meter stratified remediation option is used
    - Positively identify the responsible party should additional work be required in the future (e.g. a change in land use)
    - Ensure easy access to site-specific remediation and reclamation information in the event that development, redevelopment and/or transfer of properties formerly supporting oil and gas activities occurs.
- (2) Further work is needed to clearly identify under what conditions (e.g., in relation to residentially zoned areas) the 1.5 m stratified remediation option could be used.
- (3) Further work is needed to determine the environmental and economic impacts of using or not using stratified remediation at 1.5 m depth.

- (4) Continue research to confirm that use of the subsoil criteria below 1.5 m is protective of crop quality and health.

The OGRRAC will reconvene to discuss the implementation of stratified remediation, including the following:

- Consider results of the above additional developmental and analytical work and confirm whether supportive results have been obtained.

- A periodic review of the stratified remediation option should be conducted.

X. Recommended Next Steps

Issue:

The OGRRAC has expended considerable effort in the preparation of these recommendations. There is keen interest to see these recommendations carefully considered and implemented wherever possible.

Context:

The OGRRAC was mandated to provide advice to Alberta Environment on implementation of the new program in four key areas (see Appendix 1) and, in its early deliberations, identified a number of associated issues that also required attention. Most of the ten recommendations herein rely on legislative and/or regulatory changes that involve government evaluation and decision-making well outside the borders and roles of the OGRRAC itself. Assurance to the committee that these will be duly considered comes primarily from the timely delivery of the report to AENV Executive. However, some recommendations can be implemented directly through the efforts of OGRRAC members and their colleagues.

Recommendations:

- This report should be submitted to and considered by the current Alberta Environment Executive and Minister
- The Energy and Utilities Board and Alberta Environment should proceed without delay on implementation of the first three recommendations under "Pre-construction Communications and Pro-Active Reclamation Problem Avoidance" i.e., those items addressing the need for more and better communications materials for landowners
- The OGRRAC should reconvene for a single meeting to review and approve draft products from the exercise in the previous recommendation
- The OGRRAC should also be apprised of the conditions established by government for the implementation of the 1.5 m stratified remediation option
- This confirmatory meeting of the OGRRAC should be scheduled in FY 2004-05, allowing sufficient time for drafting of products for OGRRAC consideration

Appendix 1

Terms of Reference for the OGRRAC

OIL AND GAS REMEDIATION AND RECLAMATION ADVISORY COMMITTEE

INTRODUCTION:

Alberta's Environmental Protection and Enhancement Act (EPEA) requires that oil and gas operators conserve and reclaim lands disturbed by their activities. EPEA's Conservation and Reclamation Regulation specifies the conditions and procedures for issuance of a Reclamation Certificate (RC), which is designed to signal the completion of the required environmental work. About 60,000 RCs have been issued since 1963.

The Alberta government has developed a new reclamation program that strengthens the approach to contaminant management and enhances capacity needed to deal with an increasing workload in conventional oil and gas decommissioning. Multi-stakeholder workshops were held in June 2002 and January 2003 to ensure participation in the design of the new program. The new program was rolled out to stakeholders on March 27, 2003. The old wellsite inquiry process has been replaced by a combination of technical review of applications and post-certification field audits. Where work is found deficient, certificates will be denied or cancelled, respectively. Use of specialists is encouraged for the first two years of the new program and, thereafter will be required. Requirements for contamination management are explicit under the new program and both technical review and audit procedures will assess contamination. Regarding liability, the Alberta government is initially extending the timeline for operator reclamation liability to 25 years.

With the above changes, most of the important decisions for the new program are in place. However, additional input and analysis is needed to refine program development in nine areas:

- **Liability period for reclamation**

  A twenty-five year liability period is proposed to support the new program. Review and analysis of reclamation literature, expert opinion and experience is needed to provide a firm technical rationale for a future industry liability period.

- **Specialist signoff**

  Stakeholders (defined as landowners, industry and government) and the Alberta public in general need assurance that knowledgeable and accountable practitioners will conduct appropriate and sound remediation and reclamation. Alberta Environment has referred to such qualified and accountable individuals as "specialists". Work is needed to define and confirm the necessary and sufficient conditions to qualify as a specialist under this program. There may also be a facilitation role for the committee in ensuring that appropriate discussions and partnerships are encouraged.

- **Stratified remediation**

  In June 2001, Alberta Environment released remediation guidelines for upstream oil and gas sites based on the Canada-Wide Standard for Petroleum Hydrocarbons in Soil. The new program implements these surface and subsoil guidelines as three options: (1) surface soil guidelines applied at all depths; (2) surface soil guidelines applied to 3 m depth, subsoil guidelines at greater depth; and (3) surface soil guidelines applied to 1.5 m depth, subsoil guidelines at greater depth. The third option may require an administrative control on title to ensure that the necessary risk management is carried out in future. Work is needed to ensure that liability resides solely with the operator, that landowners will not be held liable, that appropriate administrative controls are identified, and that any necessary regulatory changes are made to support this form of management. On Public Land, Sustainable Resource Development must agree to the use of stratified remediation.

- **Performance measurement**

  Alberta Environment proposes that program assurance will be enhanced through regular reporting of outcomes. Work is needed to determine what information is best suited to measuring performance, and what can be released within the scope of the Freedom of Information and Protection of Privacy Act.

- **Access following certificate cancellation**

  When a reclamation certificate is issued, the surface lease is then cancelled or terminated by industry. Industry requires site access following cancellation of a reclamation certificate to conduct the necessary remediation and/or reclamation work and re-apply for a reclamation certificate. Currently the Surface Rights Act does not include a provision to allow for negotiation of a surface lease for purposes of conducting remediation or reclamation activities. Work with the Surface Rights Board is required to amend the Act and issues regarding the renegotiation of a new lease need to be resolved.

- **Certificate cancellation several years after a reclamation certificate was issued**

  Should a reclamation certificate stand if a surface reclamation problem is found at an audited site several years after the reclamation certificate was issued and the site was audited? Alternatively, if a site was not audited and the same problem was present, should the certificate be cancelled? Work is needed to decide what approaches should be implemented and to determine a timeframe following the issuance of a reclamation certificate for whatever policy is operative. The type of surface reclamation problems that would result in a certificate cancellation several years after issuance of reclamation certificate may also need to be defined.

- **Application fee structure**

  The application fee will be based on the costs to maintain the program, including staffing, surface and contamination audits, and complaints. Work is needed to ensure fees support a credible assurance program.

- **Landowner notification and information disclosure**

  Alberta Environment has drafted an Acknowledgement of Information Disclosure form for landowners to sign indicating they have received all required information and had opportunities to interact with the operator as described on the form. By signing the form, the landowner/occupant does not indicate any acceptance or responsibility for the work done on his/her land. However, the form may not be the best or only mechanism to ensure the landowners have been regularly informed of the work done on their land. Further work is needed to investigate if an alternative mechanism is available that would produce the same outcome that is suitable for industry and landowners.

- **Indirect effects**

  Landowners may experience unexpected costs levied by the financial community as a result of having reclaimed oil and gas facilities on their properties. For example, environmental site assessments (ESAs) may be required to secure development loans. Work is needed to ensure that financial institutions understand Alberta Environment's certification processes, criteria and remediation requirements minimize negative effects and ensure that appropriate parties pay for any justified levies.

- **Pre-construction communications/pro-active reclamation problem avoidance**

  Many landowners are unaware of the services offered by Alberta Environment and the Energy and Utilities Board (EUB) to assist landowners with land issues related to oil and gas activity. For example, if a landowner has concerns about the operator's soil handling practices in preparing a site for drilling or a pipeline, Alberta Environment can be contacted and problems can be avoided or mitigated. Work is needed to link and harmonize information between the EUB and Alberta Environment that is relevant for landowners and distribute it to them. Alberta Environment needs to improve communications to landowners so that they know Alberta Environment's reclamation and remediation requirements.

- **Application of the new program to pipelines**

  The new program focuses on wellsites and batteries and does not reflect a practical process for pipelines. While the principles of the program do not apply to pipelines, the specifics of land tenure, construction, disturbance patterns and anticipated service cycle are different between wellsites and pipelines. Work is needed to clarify the application of the new program as it relates to pipelines.

The terms of reference below describe commitments required to address these residual issues.

TERMS OF REFERENCE

MANDATE:

Alberta Environment mandates the Oil and Gas Reclamation and Remediation Advisory Committee (OGRRAC) to assist with delivery of the new reclamation and remediation program by:

- reviewing and clarifying the nine issues described in the Introduction of this document;
- identifying any other unresolved issues critical to delivery of the new program;
- overseeing the necessary research and discussions to identify options for resolution of these issues;
- developing recommendations to Alberta Environment on each of the issues;
- documenting processes and decisions to support the above recommendations;
- initiating formation and management of any sub-teams required to achieve the above objectives.

The primary purpose of the OGRRAC is to provide recommendations to Alberta Environment and Alberta Sustainable Resource Development on the timely delivery of a revised remediation and reclamation program that is scientifically and administratively sound and provides clear accountability for all parties.

KEY PRINCIPLES:

These ten key principles were presented by Peter Watson to attendees of the *Upstream Oil and Gas Remediation and Reclamation Process Workshop* on January 23, 2003 in Red Deer, Alberta.

1. Effective and sound environmental stewardship is paramount
2. Government will have oversight and will be accountable for the program
3. Government will set remediation and reclamation criteria
4. Government staff won't necessarily deliver all parts of the program
5. Program will be clear, effective, and simple
6. Roles for all parties will be clearly defined
7. There will be equitable stakeholder participation in program changes or reviews
8. Liability and accountability will be clearly defined for all parties
9. Enforcement will be fair, effective and timely
10. Annual program reviews will be held with stakeholders

REPRESENTATION:

Membership of the OGRRAC will be designed to ensure that key stakeholder groups are engaged and that a balance of expertise in various relevant disciplines is achieved. As well, a balance will be sought across stakeholder groups. Finally, numbers must be manageable – not more than a dozen or so. With these factors in mind, it is planned that OGRRAC representation will include:

- Landowners;
- Canadian Association of Petroleum Producers;
- Farmer's Advocate;
- Alberta Association of Municipal Districts and Counties;
- Alberta Conservation Tillage Association;
- Alberta Energy and Utilities Board;
- Alberta Sustainable Resource Development;
- Pembina Institute;
- Canadian Energy Pipeline Association; and,
- Alberta Environment.

For some issues there may be a need to further involve groups such as the Canadian Banking Association, Farm Credit Corporation and organizations representing reclamation specialists and the Environmental Law Centre.

Alberta Environment will consider compensation for out-of-pocket expenses where members cannot be supported by their respective organizations.

CHAIR:

Alberta Environment will chair the committee.

ADMINISTRATIVE SUPPORT:

Alberta Environment will provide secretariat services, including preparation of meeting minutes and final recommendations. The meeting minutes will be distributed within three working days of each meeting.

TIMEFRAME:

The OGRRAC will be active throughout 2003. After three months operation and annually as applicable, Alberta Environment Executive will review the mandate and performance of the OGRRAC.

ACCOUNTABILITY FRAMEWORK:

OGRRAC is accountable to AENV executive. Members accept the following roles and responsibilities:

- Represent members of your group by gathering information and viewpoints and making such available to OGRRAC in a timely way;
- Respect the information and viewpoints of other members of OGRRAC;
- Review and provide timely comment/upgrades to draft OGRRAC documents;
- Seek consensus on issues and recommendations;
- Assist in the preparation of recommendations for AENV/SRD;
- Support the OGRRAC process by promoting its goals and disseminating information to your group and interested publics.

AENV/Secretariat

In addition to the above:

- Chair the committee;
- Prepare working documents including team charter, issue backgrounders, analyses, options papers, and recommendations;
- Document discussions and outcomes in meeting minutes;
- Arrange meetings, secure venues and draft meeting agendas with the input of OGRRAC members;
- Represent OGGRAC to AENV/SRD Executives;
- Liaise with Alberta Environment's Reclamation Team to ensure that recommendations are understood and implemented as approved by Departmental Executives.